

PCT

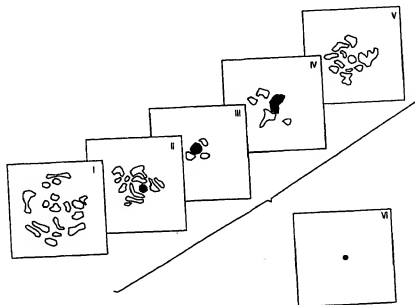
WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : G06T 1/00, G02B 21/14, 21/00		A2	(11) International Publication Number: WO 00/33250
		(43) International Publication Date: 8 June 2000 (08.06.00)	
(21) International Application Number: PCT/IL99/00645		(81) Designated States: CA, IL, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).	
(22) International Filing Date: 30 November 1999 (30.11.99)		<p>Published <i>Without international search report and to be republished upon receipt of that report.</i></p>	
(30) Priority Data: 127359 1 December 1998 (01.12.98) IL 09/238,225 27 January 1999 (27.01.99) US			
(71) Applicants (for all designated States except US): YEDA RESEARCH AND DEVELOPMENT CO. LTD. [IL/IL]; Weizmann Institute of Science, P.O. Box 95, 76100 Rehovot (IL). THE REGENTS OF THE UNIVERSITY OF CALIFORNIA [US/US]; 1111 Franklin Street, Oakland, CA 94607-5200 (US).			
(72) Inventors; and (75) Inventors/Applicants (for US only): KAM, Zvi [IL/IL]; Hashofim Street 38, 64365 Tel Aviv (IL). SEDAT, John, W. [US/US]; 294 Yerba Buena Avenue, San Francisco, CA 94127 (US). AGARD, David, A. [US/US]; 283 Juanita Way, San Francisco, CA 94127 (US). HAUSER, Bridget, M. [US/US]; 1285 6th Avenue, San Francisco, CA 94122 (US).			
(74) Agents: COLB, Sanford, T. et al.; Sanford T. Colb & Co., P.O. Box 2273, 76122 Rehovot (IL).			

(54) Title: COMPUTERIZED ADAPTIVE IMAGING



(57) Abstract

Apparatus for computational adaptive imaging comprises the following: an image information acquirer, which provides information relating to the refractive characteristics in a three-dimensional imaged volume; a ray tracer, which uses the information relating to the refractive characteristics to trace a multiplicity of rays from a multiplicity of locations in the three-dimensional imaged volume through the three-dimensional imaged volume, thereby providing a location dependent point spread function, and a deconvolver, which uses the location dependent point spread function, to provide an output image corrected for distortions due to variations in the refractive characteristics in the three-dimensional imaged volume.